Appendix A

Agency Correspondence

A. AGENCY CORRESPONDENCE

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United States Department of Agriculture

Natural Resources Conservation Service 4405 Bland Road, Suite 205 Raleigh, NC 27609

Telephone No.: (919) 873-2134 Fax No.: (919) 873-2154

July 15, 2002

Ms. Gail Grimes, P. E., Asst. Manager Project Development & Environmental Analysis Branch N. C. Department of Transportation 1548 Mail Service Center Raleigh, NC 27699-1548

Dear Ms. Grimes:

Thank you for the opportunity to provide comments on <u>Federal Draft Environmental Impact Statement for US 321 Improvements Project, from SR 1500 (Blackberry Road) to US 221 at Blowing Rock, Caldwell and Watauga Counties, Federal Aid Project NHF0321(1), State Project No. 6.739001T, TIP Project R-2238C.</u>

The Natural Resources Conservation Service does not have any comments at this time.

Sincerely

Mary K. Combs State Conservationist

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer



DEPARTMENT OF THE ARMY WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890 WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

September 25, 2002

Planning Services Section

Ms. Gail Grimes, P.E., Assistant Manager Project Development and Environmental Analysis Branch North Carolina Division of Highways 1548 Mail Service Center Raleigh, North Carolina 27611-5201

Dear Ms Grimes:

This is in response to your letter of June 28, 2002, requesting comments on the "Federal Draft Environmental Statement for US 321 Improvements Project, From SR 1500 (Blackberry Road) to US 221 at Blowing Rock, Caldwell and Watauga Counties, Federal Aid Project NHF-321(1), State Project No. 6.739001T, TIP Project R-2237C" (Regulatory Division Action ID 200231262.)

Our comments involve impacts to flood plains and jurisdictional resources that include waters, wetlands, and U.S. Army Corps of Engineers projects. The proposed roadway improvements would not cross any Corps constructed flood control or navigation project. Enclosed are our comments on the other issues.

We appreciate the opportunity to comment on this project. If we can be of further assistance, please contact us.

Sincerely,

Thomas G. Corder, P.E. Chief, Planning and Environmental Branch

Enclosure

Blind Copy Furnished:

Mr. John Rheme (CELRH-PD-S)
U.S. Army Engineer District, Huntington
Post Office Box 2127
Huntington, West Virginia 25701

"Federal Draft Environmental Statement for US 321 Improvements Project, From SR 1500 (Blackberry Road) to US 221 at Blowing Rock, Caldwell and Watauga Counties, Federal Aid Project NHF-321(1), State Project No. 6.739001T, TIP Project R-2237C" (Regulatory Division Action ID 200231262.)

1. FLOOD PLAINS: POC - Bobby L. Willis, Planning Services Section, at (910) 251-4728

The Town of Blowing Rock and both Caldwell and Watauga Counties are participants in the National Flood Insurance Program (NFIP). Based on a review of panels 125 and175 of the August 1988 Caldwell County, North Carolina and Incorporated Areas Flood Insurance Rate Map (FIRM), the proposed roadway improvements would not be located in an identified flood hazard area. This is confirmed by a review of the pertinent United States Geological Survey topo of the area.

From a review of panel 193 of the January 1997 Watauga County, North Carolina and Incorporated Areas FIRM, the widening alternative appears to cross or otherwise involve the flood plain at two locations of Middle Fork, a detailed study stream with 100-year flood elevations determined and a floodway defined. The stream and floodway are crossed at the southernmost location of the two areas. Based on a review of panel 194 of the FIRM, it appears that Alternatives 4a and 4b would cross Middle Fork and Aho Branch near its confluence with Middle Fork. Aho Branch is also a detailed study stream. We note that the areas of involvement are discussed on page 4-109 of the Draft Environmental Impact Statement (DEIS).

The proposed improvements should be designed to comply with the requirements of the NFIP, administered by the Federal Emergency Management Agency (FEMA) and all local ordinances. For information related to FEMA requirements, we recommend that one of the following individuals be contacted: Mr. Phil Letsinger, state coordinator of the NFIP at (919) 715-8000, Extension 273; or Mr. John Gerber, P.E., of the North Carolina Division of Emergency Management, Western Branch at (828) 299-4696. Specific questions pertaining to community flood plain regulations or developments should be referred to the local building official.

The Middle Fork Basin is within the planning jurisdiction of the U.S. Army Corps of Engineers, Huntington District. Mr. John Rheme may be contacted at (304) 528-7433 for further information and comments from the Huntington District.

2. WATERS AND WETLANDS: POC- Steve Lund, Project Manager, Asheville Field Office, Regulatory Division, at (828) 271-7980, Extension 4.

The Regulatory Division has completed a review of the DEIS, and we have the following comments. All of the identified Build Alternatives would require Department of the Army permit authorization under Section 404 of the Clean Water Act. Considering the potential level of impacts to jurisdictional waters and wetlands described in the DEIS, we anticipate requiring an individual permit for any of the Build Alternatives.

Our public review process for this project is ongoing; therefore we cannot state a preference for any alternative at this time. We should have the necessary public input by the scheduled November 20, 2002 Merger Process Project Team meeting to recommend a preferred alternative. We wish to reiterate our position from the January 18, 2001 Merger Process Project Team meeting, however. As you are aware, we did not concur with carrying Alternative 4 forward for detailed study in the DEIS. Sufficient information was available at that time to conclude that the potential impacts to aquatic resources, wildlife and forest resources, and visual/aesthetic resources would be significantly higher with Alternative 4 than with either Alternative 1 or the Widening Alternative. This situation has not changed. Alternative 4 would involve 14 to 15 additional stream crossings, and culverted stream loss would be up to 5545 linear feet higher. Secondary and cumulative stream impacts would be magnified by the terrain and the steep channel gradients, approximately 60 additional acres of forest would be cleared, and the viewshed of the Blue Ridge Parkway would be adversely affected. Other problems with Alternative 4 affecting aquatic resources include the large volumes of excavation and fill material, the length of the required construction time, the disposal of waste material in extremely steep terrain, securing adequate compensatory stream mitigation within the appropriate hydrologic units, and the extreme cost of construction and mitigation. A preliminary evaluation of compliance of Alternative 4 with the Section 404(b)(1) Guidelines of the Clean Water Act indicates potential noncompliance with these Guidelines. That is, there are available, practicable alternatives (Alternative 1, Widening Alternative) having less adverse impact on the aquatic ecosystem that are without other significant adverse environmental consequences. Under our regulations, a Department of the Army permit is not available if it does not comply with the 404(b)(1) Guidelines. For these reasons, we continue to find Alternative 4 unacceptable.

If you have questions or need further information, please contact Mr. Lund.

A-.



UNITED STATES DEPARTMENT OF COMMERC'
Office of the Assistant Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

July 25, 2002

Ms. Gail Grimes, P.E., Assistant Manager Project Development/Environmental Analysis Branch N.C. Department of Transportation 1548 Mail Service Center Raleigh, North Carolina 27699-1548

Dear Ms. Grimes

Enclosed are comments on the Draft Environmental Impact Statement for US 321 Improvements Project, from SR 1500 (Blackberry Road) to US 221 at Blowing Rock, Caldwell and Watauga Counties, North Carolina. We hope our comments will assist you. Thank you for giving the opportunity to review this document.

Sino

James P. Burgess, III NEPA Coordinator

Enclosure



MEMORANDUM FOR:

James P. Burgess III

Actg. Director, Office of Strategic Planning

FROM:

Charles W. Challstrom

Director, National Geodetic Survey

SUBJECT:

DEIS-0207-04 US 321 Improvements Project, from SR 1500

(Blackberry Road) to US 221 at Blowing Rock, Caldwell and

Watauga Counties, North Carolina

The subject statement has been reviewed within the areas of the National Ocean Service (NOS) responsibility and expertise and in terms of the impact of the proposed actions on NOS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the National Geodetic Survey's home page at the following Internet World Wide Web address: http://www.ngs.noaa.gov After entering the this home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the National Geodetic Survey data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about geodetic control monuments, please contact Rick Yorczyk; SSMC3 8636, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; Telephone: 301-713-3230 x142; Fax: 301-713-4175, Email: Rick.Yorczyk@noaa.gov.

NOS has a state representative in North Carolina, who could provide further assistance. His contact information is: Gary W. Thompson, Chief, NC Geodetic Survey, Elks Building, 20323 Mail Service Center, Raleigh, NC 27699-0323; Telephone: 919-733-3836; Fax: 919-733-4407; Email: gary.thompson@ncmail.net





United States Department of the Interior



OFFICE OF THE SECRETARY Washington, D.C. 20240

ER 02/597

Ms. Gail Grimes, P.E.
Assistant Manager
Project Development and
Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Grimes:

This is in response to the request for the Department of the Interior's (Department) comments on the Draft Environmental Impact Statement (DEIS) and Section 4(f) Evaluation for US 321 Improvement Project, from SR 1500 (Blackberry Road) to US 221 at Blowing Rock in Cauldwell and Watauga Counties, North Carolina. We offer the following comments for your consideration.

General Comments:

The North Carolina Department of Transportation (NCDOT) is proposing to improve US 321 from Blackberry Road to US 221 in Blowing Rock. These northern 4.3 miles represent the final segment of a larger project (15.1 miles total) to improve US 321 from NC 268 in Patterson, North Carolina, to Blowing Rock. The project originally was analyzed in an Environmental Assessment, and the other segments are in various stages of construction or right-of-way acquisition. Due to public comment and the desire for additional alternatives and because of the overall complexity of this project, the northernmost segment was further analyzed in an Environmental Impact Statement (EIS).

Preparers of the DEIS are to be commended for addressing early National Park Service (NPS) input referencing our concerns about status of the Blue Ridge Parkway (Parkway) being eligible for listing as a National Register property, importance of scenic viewing areas to visitors, and potential viewing area impacts related to all alternatives. Viewing area inventory and analysis data provided to DEIS consultants were fairly presented in the DEIS. However, NPS reviewers found that not all of the available data related to the Parkway was included in the DEIS. Data that the NPS believes to be relevant to the evaluation of proposed Parkway

Ms. Gail Grimes, P.E.

crossing segments are also included as comments and in support of the Department's conclusions.

At a January 18, 2001 meeting, the team discussed the alternatives to be studied in detail and agreed to drop Bypass Alternatives 2 and 3. Both NPS and the Fish and Wildlife Service (FWS) remained opposed to Bypass Alternative 4A and 4B (4A/B). While the NCDOT agreed to drop Alternatives 2 and 3, they insisted that Alternatives 4A/B remain as an alternative that would be studied in detail. The alternative options 4A and 4B would cross the Blue Ridge Parkway at Milepost 291. NPS and FWS signed a concurrence form that included only the Widening Alternative and Bypass Alternative 1A and 1B. Resource agency opposition to Alternatives 4A/B is noted in the DEIS.

Based on the DEIS presentation in the Affected Environment and Environmental Consequences Visual and Aesthetic Quality sections, the Department prefers the Widening Alternative. This alternative would widen US 321 from two lanes to four lanes from Blackberry Road through the town of Blowing Rock. Under this alternative there would be very minor additional impacts to the natural environment, Parkway lands, and scenic viewing areas beyond what occurred in the 1970's when US 321 was widened to four lanes by removing a historic Parkway stone arch bridge. Bypass Alternatives 1A and 1B are also acceptable to the NPS because the visual changes occurring as a result of the roadway alignment locations minimally affect Parkway scenic view areas. Bypass Alternatives 4A and 4B based upon the DEIS impact analysis would both substantially impact Parkway scenic view areas at Thunderhill.

The impact of Alternative 4A/B to aquatic resources and terrestrial wildlife habitat are greater when compared to any of the other alternatives. The costs are essentially double and triple the next most expensive alternative. Alternatives 4A/B would cross approximately five times the number of streams, and a large block of mostly roadless, upland habitat in the headwaters of the Yadkin River, which would be fragmented.

Specific Comments:

SUMMARY

In Table S-1 (pp. ix and x) the visual impact of cuts and fills that is identified to affect the Tunnel Hill Overlook on the Parkway would provide sufficient reason to consider Alternatives 4A and 4B too great an impact from an historic resource perspective. Therefore, these alternatives are contrary to the legislative mandates

Ms. Gail Grimes, P.E.

of the Parkway. (See visual analysis study indicated on Figure 3-4).

ENVIRONMENTAL COMMITMENTS

In item two of this section it is stated that:

A Memorandum of Agreement (MOA) will be developed among the Federal Highway Administration (FHWA), the NCDOT, the State Historic Preservation Officer, the Advisory Council of Historic Preservation (ACHP), and the NPS for mitigating effects for the preferred alternative, if one is selected that has an adverse effect on a historic resource listed on or eligible for inclusion in the National Register of Historic Places.

This is a particularly important commitment on the part of NCDOT, since the Parkway is noted on the top of Page 3-40 and elsewhere in the DEIS as "eligible for listing" on the National Register. This Parkway status will mean that any potential effects on the Parkway from any preferred alternative must be evaluated as part of the Section 106 compliance process in order to determine the complete character of such effects.

CHAPTER 3.0 AFFECTED ENVIRONMENT

3.1.5 COMPREHENSIVE PLANNING

Blue Ridge Parkway

The section on page 3-17 starting: "Conserve and provide for the enjoyment . . . needs to end the sentence with "Southern Appalachian Mountains." The word "Southern" was incorrectly omitted here.

3.2.2 COMMUNITY FACILITIES AND RESOURCES

National Park System Units

Last complete sentence on page. Change "Just sought of the current US 321 " to "Just south of the current US 321 "

3.7.2 ARCHAEOLOGICAL RESOURCES

Reference the specific approval dates, position titles and language from the NPS Southeast Archeological Center authorities' final acceptance of the contractor's archeological survey results.

Ms. Gail Grimes, P.E.

3.8 PARKS AND RECREATION AREAS

3.8.3 THE BLUE RIDGE PARKWAY

The planned tunnel construction beneath the Parkway as shown in Alternative 4A and Alternative 4B does not sufficiently solve the visual, historical, or cultural impacts to the Parkway, so would most likely be included in this listing as a significant impact to the Parkway. Another crossing of the Parkway by US 321 would again significantly impact the Parkway since it already has done so at the existing crossing. The Widening Alternative and Alternative 1A and Alternative 1B would not significantly impact the Parkway any more than it already has in that location.

3.10 ECOLOGICAL RESOURCES

3.10.1 TERRESTRIAL RESOURCES

Plant Communities

The cuts and fills shown to occur along Alternatives 4A and 4B leading to the Parkway from both directions will provide little opportunity to restore the natural plant communities and landscape of this area. The modification would change the most desired open view from the Parkway to a tunnel view, that research has found to be the least desirable view from the Parkway. Therefore, this would provide reason to consider these alternatives a significant impact to the Parkway.

3.10.3 THREATENED OR ENDANGERED SPECIES

Federal Listed Species

Although mentioned as a species with potential presence, Allegheny woodrat is not addressed. Neither is the southern Appalachian Saw-Whet Owl, which occurs in the nearby area. There is potential to impact both species, if they indeed are present. The Saw-Whet owls are quite mobile and are documented at elevations just below 4,000 feet on the Parkway nearby. They could be disturbed by noise and light pollution associated with the alternative routes.

Another species not mentioned is rock gnome lichen (*Gymnoderma lineare*). Although the likelihood of it being in the impacted area may be low, it is present nearby.

^{&#}x27;Please see Visual Preferences of Travelers along the Blue Ridge Parkway, 1988, Francis P. Noe and William E. Hammitt.

Ms. Gail Grimes, P.E.

Hibernating Virginia big-eared bats (*Corynorhinus townsendii virginianus*) are also present on nearby Grandfather Mountain and there might be potential for maternity colonies to be near.

Given the number of wetlands, there may be potential for amphibian species of concern that are not noted. It is also of concern to the NPS if bog turtle or timber rattlesnakes are present in the project area.

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

4.3 VISUAL AND AESTHETIC QUALITY

Inventory and data analysis presented in these sections followed the current Parkway Scenery Management System procedures, thus facilitating staff review and comment. Much of the available data provided by Parkway resource planning staff was utilized in the DEIS. Its synthesis and presentation was unbiased, clear, and to the point.

4.3.2 WIDENING ALTERNATIVE

Landscape Unit Six

Park staff agrees with conclusions stated here.

4.3.3 BYPASS ALTERNATIVE 1A

Landscape Unit Six

Park staff agrees with conclusions stated here.

4.3.4 BYPASS ALTERNATIVE 1B

Landscape Unit Six

Park staff agrees with conclusions stated here.

4.3.5 BYPASS ALTERNATIVE 4A

Landscape Units One, Six and Seven

Park staff agrees with conclusions stated here.

4.3.6 BYPASS ALTERNATIVE 4B

Ms. Gail Grimes, P.E.

Landscape Units One, Six and Seven

Park staff does not completely agree with conclusions stated here. While bridges eliminate the need for large cuts and fills, there would still be the introduction of a major structure that is incongruent with the existing forested slope. While bridges are less impacting, the overall impact is still considered substantial to us on the intactness score alone.

4.6.1 HISTORIC RESOURCES

Blue Ridge Parkway

This several page section presents a thorough description and analysis of the effect of the alternatives on the Parkway as an historic property. The DEIS finds that Bypass Alternatives 4A and 4B would have an Adverse Effect because introduction of new visual elements into the view areas rise to the level that they would diminish the integrity of the Parkway's significant historic features.

4.8 SECTION 4(f) RESOURCES

We have two separate but related concerns.

In the DEIS, paragraph three under this section it is stated that "None of the alternatives would use property from...the Blue Ridge Parkway." While Bypass Alternatives 4A and 4B would pass under the Parkway not disturbing land surface features they would however affect Parkway subsurface lands. NPS must consider this as a transfer of lands by the Federal government for highway use. If either of the 4A or 4B bypass alternatives are selected, then the means to transfer a right-of-way will need to be determined by the NPS. This will require NEPA compliance and may require an equal value exchange to facilitate the State's acquisition of the right-of-way; and, as such, this cost should be added to the overall cost of the project.

Our other concern is that of constructive use of parkway lands. The discussion on Section 4(f), constructive use was lengthy, and the NPS position on this matter was well presented in the DEIS. However, the Department does not agree with the determination by the FHWA that constructive use does not apply upon their finding that none of the alternatives would affect the Parkway in a manner serious enough to substantially impair the parkway elements, which qualify for resource protection under Section 4(f).

This FHWA finding seems to say that because the parkway is so long and has so

The last paragraph under this section states, "This conclusion does not diminish the importance of the impacts to the Blue Ridge Parkway as a factor in the selection of a preferred alternative." The NPS strongly concurs with that statement.

4.16 SECONDARY AND CUMULATIVE IMPACTS

It would seem that the cumulative impacts identified for the Widening Alternative including Alternative 1A and Alternative 1B does not significantly impact Blowing Rock and its surrounding communities to warrant making Alternative 4A or Alternative 4B the preferred alternatives, neither to the Parkway or these surrounding communities.

4.16.4 Bypass Alternatives 4A and 4B

There appear to be several issues with the tunnels that are not discussed in the statement. Although it is stated that Section 4(f) does not apply to NPS lands because of the tunnel, there are many impacts that may be detrimental, long-term or cumulative to the Park. These include the increase in adjacent impacts from light, noise, and air pollution from use of the tunnels.

A structure that is as large as this tunnel and with as much maintenance (see buildings, and parking, personnel, etc., associated with the tunnel) will attract visitors. No mention is made of long-term maintenance of the tunnels, the impact of potential hazmat spills, unforeseen problems with bedrock, etc. During construction of the tunnel, there is no mention of possible impacts if tunnel were damaged by wreckage, explosions, etc.

Although mentioned, development along the Alternative 4 routes will undoubtedly impact Parkway aesthetics, wildlife, and viewsheds to a greater extent, especially long-term, than is noted. Also mentioned, but not fully developed, is the introduction potential for invasion of undesirable and introduced vegetation.

NATURAL RESOURCES

Ms. Gail Grimes, P.E.

Water Resources

Reference Alternative 4A versus Alternative 4B water quality impacts due to number of bridges: Bridges will not necessarily have fewer impacts on water sources, as there will still be all the contaminants from runoff. In addition, bridges are more frequently and more heavily treated with road salt and other melting agents and abrasives during freezing weather. This could result in more contaminants having potential for impacting the streams from the bridges than from a conventional roadway.

APPENDIX D DESIGN AND LANDSCAPE DRAWINGS FOR THE BUILD ALTERNATIVES

In viewing the design drawings for each alternative it would seem that the Widening Alternative accommodates increased traffic needs the best. The other four recommended alternatives seem to address the desire for a road bypass by the surrounding communities. The alternative chosen should depend on the overriding need to provide a means of supporting increased traffic in the area, or the desire for a community bypass. It is not in the best interest of the NPS to support the community's need for a community bypass road considering the impacts these alternatives would have on the Parkway.

The Department is opposed to Alternatives 4A/B. The impacts to aquatic resources and terrestrial wildlife habitat are greater when compared to any of the other alternatives. Alternatives 4A/B would cross approximately five times the number of streams, and a large block of mostly roadless upland habitat in the headwaters of the Yadkin River, which would be fragmented. We believe that widening the existing roadway would have the least effect on the natural environment and the Parkway and would meet the stated purpose and need for the project.

If you have any questions concerning the Parkway, please call Gary W. Johnson, Chief, Resource Planning & Professional Services Division, at 828/271-4779 ext. 210.

Ms. Gail Grimes, P.E.

We appreciate the opportunity to provide these comments.

Sincerely.

Willie R. Taylor

Director, Office of Environmental

Policy and Compliance





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

September 23, 2002

Ms. L. Gail Grimes, P.E.
Assistant Manager, Project Development
and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: US 321 Improvements, Caldwell and Watauga Counties, North Carolina
Draft Environmental Impact Statement; TIP Project No. R-2237C; FHW-E40320-1;
CEO No. 020297

Dear Ms. Grimes:

In accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) is providing comments on the subject Draft Environmental Impact Statement (DEIS). Highway improvements are proposed for this segment of US 321 in the vicinity of the Town of Blowing Rock covering a distance of approximately 4.3 miles. Originally, this project involved a 15-mile segment of US 321 improvements. Public concern with the scope of the alternatives for the northern 4.3-mile section at the Town of Blowing Rock caused this section to be withheld from proceeding to design and construction, and an EIS was determined to be necessary in 1994.

Purpose and Need for the Project

This section of US 321 has failing or near failing levels of service throughout the project's length resulting from mountainous terrain with steep grades and several severe curves without safe passing zones. In addition, this section had a total of 118 accidents within a recent three-year period which is 28% higher than comparable roadways statewide. The primary stated purposes of the project is to improve the traffic flow and level of service and reduce the accident rate for this roadway. EPA agrees with the purpose and need for these improvements to this section of US 321 as described in the DEIS.

Alternatives

The DEIS documents the extensive efforts that have gone into the development of preliminary alternatives, and the numerous meetings have been held with local and agency officials. A total of 17 alternatives have been considered. There was consideration early on of a complete rerouting of US 321 from the Lenoir area to Hampton, TN via NC 18 and US 19.

This alternative and the no-build alternative were found to not address either of the identified needs for this project. Other build alternatives were eliminated from further consideration because of environmental or construction costs, or because of their substantial similarity to those alternatives retained. Within the project area, the Traffic Systems Management (TSM) option was also considered along with two- and three-lane configurations, as was mass transit; however, all were discarded because of their failure to address the identified needs. Geo-technical studies and traffic studies were conducted to help define the environmental issues and appropriate alternatives.

Both of the bypass alternatives have two variations. Alternative 1B would straighten two sharp curves in the southern portion of the alignment, requiring substantial amount of additional cut and fill work. Conversely, Alternative 4B includes a greater amount of bridging than 4A to generally reduce the changes in terrain and impact to natural resources.

According to the DEIS all of the build-alternatives would meet the transportation purpose and need of the project. However, only the Widening Alternative and bypass Alternatives 1A and B would address safety concerns with the existing roadway by eliminating sharp curves and narrow pavement. Alternatives 4A and B would improve safety on the existing roadway indirectly by reducing the traffic volume on existing US 321. However, it appears that some improvements to existing US 321 to address safety and level of service needs would likely be required in the future regardless of the construction of a bypass.

Some of the most important information in determining the degree that the various alternatives would meet the project's purpose and need was obtained from the Origin and Destination Study, which is discussed beginning on page 2-5. This study found that 75% of the trips were from home to work and back, and 64% of the trips along US 321 in Blowing Rock originated in Caldwell and Watauga counties. These findings demonstrate that the Widening Alternative would provide the greatest transportation utility for these kinds of trips while Alternatives 4A &B would provide the least.

Noise and Scenic

The alternatives with the greatest noise impacts are Alternatives 1A and 1B with 69 and 61 residences impacted substantially (as defined by the DEIS of exceeding the noise abatement criteria (NAC), having a substantial increase over existing levels or both). In comparison, the Widening Alternative and Alternatives 4A and 4B would have very similar impacts, at 28, 25 and 24 residences with substantial impacts, respectively. We note that noise abatement measures were not found to be cost effective for any of the residential areas expected to be impacted substantially.

Since noise mitigation was not found to be cost effective, EPA encourages NCDOT to consider landscaping enhancement and scenic screening measures such as earthen berms, retaining walls and vegetative plantings as space allows. In particular, we strongly urge the

consideration of these measures for those residential areas expected to experience severe increases in noise levels as a result of a selection of any of the four bypass alternatives on new alignment. Generally, for the Widening Alternative in the more urban area, we believe that such measures can be best meshed with other historic and scenic enhancements.

Historic Resources

Impact to historic resources is a key issue on this project. Under Section 106 of the National Historic Preservation Act, the Widening Alternative would have an Adverse Effect, requiring the taking of historic property, on the Green Park Historic District, and would result in some noise and scenic view impacts to the Bollinger-Hartley House, which are not considered an Adverse Effect under Section 106.

Since the purpose of the Blue Ridge Parkway is to protect the scenic, natural and cultural resources within the parkway corridor and conserve the vistas from the parkway, vistas are an important part of the parkway experience. The views from the Thunderhill overlook, within the project area, received exceptional quality ratings by the National Park Service. Also, according to the DEIS, the parkway is being considered for National Landmark designation but the effect of such designation on the parkway is not defined. All the Bypass Alternatives would impact the Blue Ridge Parkway viewshed; however, Alternatives 4A and 4B would have an Adverse Effect under Section 106. The bridging proposed for 4B would lessen these effects. EPA defers to the State Historic Preservation Officer, the National Park Service, FHWA and NCDOT to address these historic issues.

Natural Resources

Alternatives 4A&B would have the greatest adverse impact on resources associated with the necessary crossing of 20 streams compared to 6 crossings for the Widening Alternative and 5 associated with Alternatives 1A&B. Alternative 4B provides important bridging to minimize this impact. While none of the directly impacted streams are assigned a critical water supply or other high quality water designation, many could support trout populations. The resulting removal of more tree canopy, associated mostly with the bypass alternatives and additional development that may be induced, promotes water temperature increases that are detrimental to trout habitat. The impact of stream crossings should be mitigated by the retention of vegetative buffers wherever practicable.

Likewise, the impact to terrestrial wildlife from the Alternative 4A and 4B alignments is greatest because of the remote, forested habitat that is bisected. Alternatives 1A&B would have an intermediate level of impact to natural resources because they would cross land experiencing development on the east side of the Town of Blowing Rock.

In this project area, it is noted that wetland vegetated communities are limited in extent and do not vary substantially between alternatives. EPA believes that because of the scarcity of